



HEM for BMC-Leyland car manufacturing plant

The site of the BMC-Leyland car plant at Victoria Park, Zetland in Sydney has been awarded an Historic Engineering Marker. Opened in 1950 with the last employees leaving 25 years later, the plant has a significant place in the history of Australian automotive manufacture. It was the only complete motor vehicle manufacturer ever in NSW.



As Nuffield Aust., BMC Aust., BLMC Aust., and finally Leyland Australia, the company introduced to Australia such processes as in-line transfer machining (of major mechanical components), the Rotodip process (for priming complete bodies), "just-in-time" supply principles, flexible manufacturing and advanced assembly techniques employing integrated conveyor systems (still applicable today). The only plant to make the complete vehicle on one site

in Australia, it is still the only plant to produce four, six and eight cylinder engines under the one roof.

Operating during a period of post war reconstruction and large scale migration, BMC played a major role in the assimilation of migrants, who made a large contribution in forming the Australian culture of today. Significant in justifying the award were:

- the world class processes introduced into Australia, the wide range of problems faced and solved and the extensive model range including: Austin: A60, A90, Lancer, Freeway, 1800, and Kimberley, Morris: Minor, Oxford, Major, Marshall, Mini-Minor, 1100, Cooper "S" and Marina, Wolseley: 1500 and 24/80, MGB and, of course, Leyland P76);
- the key role BMC played in Australia's social and cultural development during post war reconstruction and large scale immigration;
- the large scale and complexity of the operation - the largest private employer in the Sydney region with a typical workforce of 5,000, peaking at 7000 and enlightened employment policies which coped with employees from 35 nationalities.

After spending two decades as the a Naval storage depot, the site is now being re-developed for commercial and housing use by Landcom.

- Barry Anderson

- a place of social and cultural development, and of manufacturing innovation!



Nostalgic photos from the heyday of BMC-Leyland

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Revisions to the Burra Charter

At its recent meeting in Sydney, The National Committee on Engineering Heritage endorsed the use of the revised Burra Charter for the conservation of engineering heritage.

The Burra Charter has been the principal standard for cultural heritage conservation in Australia for twenty years. Its proven usefulness and good sense have led to its widespread use by all levels of government and to the development of similar guidelines for the indigenous and natural heritage environments, and for engineering heritage. In November 1999 Australia ICOMOS adopted revisions to the Burra Charter to bring it up to date as a best practice standard.

Australia ICOMOS is affiliated with the International Council on Monuments and Sites, and is made up of a wide range of professionals including historians, archaeologists, architects, engineers, materials specialists and cultural heritage managers practicing in conservation around Australia. The Burra Charter (The Australia ICOMOS Charter for Places of Cultural Significance) takes its name from the historic mining town of Burra in South Australia. This is where in 1979 a meeting of Australia ICOMOS adopted its Charter after considering earlier European charters for conservation of places, and adapting their concepts for use in Australia. Since its adoption the Burra Charter has been the accepted standard for conservation of places in Australia, and widely respected as a model for use in other countries. However changing understanding about heritage values, including the recognition that significance may lie in more



Locomotive 1210, significant as an item of movable heritage dating from 1897, and also for its social value, having hauled the first train to arrive at Canberra Railway Station in 1914. Still operational in Canberra but hardly a "place" in terms of the Burra Charter.

than just the fabric of a place, and that there may be different but coexisting perceptions about the significance of places, led to the review of the Charter and the recent revisions.

The review addressed the need to involve the community in heritage processes, advances made in understanding and assessing the social value of heritage places and the need to more clearly explain the conservation planning process. The revised Charter can be viewed on the web site <http://www.icomos.org/australia/>.

While heritage engineers have embraced the Burra Charter for conservation of places, they have been mindful that it concentrates on place and not on movable heritage, except where objects are associated with a place. Thus the Burra Charter forms an appropriate and important set of rules

for the conservation of buildings, bridges, engineering structures, and sites of engineering or industrial significance, but much of the machinery and equipment of interest to engineers is mobile, and has intrinsic engineering significance which is independent of location. For this reason the Institution of Engineers (Australia) developed "Engineering Heritage and Conservation Guidelines" in 1992, based on the Burra Charter. These guidelines featured Locomotive 3801 on the cover to emphasise the need to recognise consistent conservation principles without being tied to a particular place. The engineering guidelines will be revised to keep them consistent with the new version of the

Burra Charter. Other issues may also be addressed at that time such as the differences in perception between engineers and architects about the significance of some places, and a strengthening of the interpretation of former engineering functions in buildings that are being adaptively reused.

- Keith Baker

Now there's an interesting shed...

About ten years ago Dave, a friend who is a gardener and odd job man, came around to see me. He'd just had a rather disturbing experience.

One of regular customers rang him up with some bad news. Her husband had just died and there was an urgent job that she wanted Dave to attend to. When he got there, the distressed wife demanded that Dave "clean out the shed immediately - take everything down the dump right now." The shed had long been a bone of contention between the husband and wife.

When Dave went down to the shed, which was at the far end of the yard and backed onto a laneway, he opened the door on a revelation.

Inside were dozens of push lawnmowers, handles, blades, sharpening tools, everything that the connoisseur of the human powered lawnmower could ever need or want. All beautifully ordered and kept in good nick.

It turned out that this bloke ran a Saturday morning swap shop for those who appreciated a good push lawnmower. Other lawnmower fanciers would come around and discuss the virtues of the mountain ash handle as against the imported

hickory ones or the correct angle at which a blade should be sharpened.

The old shed still glowed with the presence of the man and his life of unique and gentle obsession - and it was all about to disappear under tons of far more mundane household rubbish at the dump.

It was a one man, highly personal museum, a one person-sized piece of history.

I quickly found that it was what went on in the shed that really mattered. How people gave people meaning to their lives, how they found self-expression or satisfaction.

For many men the shed is a still place, a central point in a world that is whizzing around at an ever-increasing pace, getting madder and madder every year. But your shed can stay just about the same; that 3/8" spanner you put on the corner of the bench last October will still be there next October. The shed is a place for reflection and meditation. Not everyone chooses a church or a yoga centre for meditation and the pondering of life's great mysteries.

A hundred years ago, Sydney's year of the tram

The first electric tram service in the City of Sydney commenced operation in George Street on 8 December 1899. The previous day there had been free demonstration trips provided by a fleet of 41 trams. There were over 40,000 passengers on the opening day, and at the end of 1900 the Railways Commissioners reported that 25 million passengers had been carried by this tramway, vastly exceeding expectations.

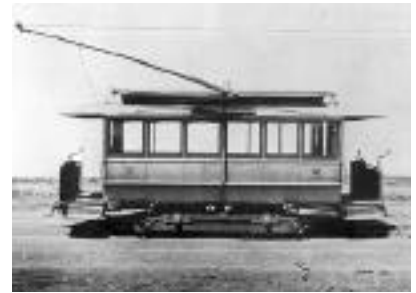
Experimental battery powered trams had run in Sydney from 1888, but with little success. In 1889 an electric tramway with overhead wires had opened in Melbourne between Box Hill and Doncaster, and in 1890 electric trams were carrying passengers in Sydney between Randwick and Waverley. Conversion of the North Sydney cable tramway to electric traction quickly followed. By 1900 there were 20 km of electric tramway operating on Sydney's North Shore.

Ultimo Power House was built to provide electricity for the George Street trams. It was generously planned for a capacity of 20,000 kilowatt. By the end of 1900 three 850 kilowatt generators were running continuously to supply the trams. Steam turbine generators were installed from 1905, and by 1911 the installed capacity at Ultimo had exceeded 20,000 kilowatt and was still growing. It closed in 1963 and the building is now the Powerhouse Museum.

By 1900, there were around 100 tramcars for these services built by several companies in Sydney, using imported electrical equipment. They had seating capacities of 20-34, and some, after being replaced by larger trams in Sydney, saw service elsewhere, notably on the St.Kilda Brighton line in Melbourne, and at Ballarat, where the last one was retired in 1935. Several have been preserved or restored, including one at the Sydney Tramway Museum, Loftus, that is the oldest operating electric tram in Australia.

The Sydney Tramway Museum celebrates its 50th anniversary in July this year. IEAust Sydney Division is preparing a nomination for a Historic Engineering Plaque to mark the occasion.

- Ian Arthur



Tram No. 2 (SRA Archives). Tram is one of three prototypes, built originally for the Waverley line, and later used in the North Sydney service before 1900.

Now there's an interesting shed...continued from page 2

Nor is the shed necessarily a place for isolation either. It can be a place where men pass on useful knowledge to sons - and even daughters. Bikes are repaired, things taken apart and their innards examined. The spirit of enquiry in shed science lives on.

I eventually published the photos with a commentary in 1995 as "Blokes and Sheds" and to my great surprise, the book became a best seller.

But it was this last group of people, the old tradesmen, mechanics and engineers, who continue to provoke many unanswered questions.

The dexterity and sureness, the years of learnt skill that went into some of the tasks they undertook is now a rare thing. It's now becoming very rare for anybody to use highly developed hand/eye skills at work - unless you consider flapping away at a computer.

We've known for years that the computer and its myriad applications would change work. It has happened and people are generally uneasy about it.

We rarely use our hands to make things. The hand, so long an essential part of our development from animal to human, is now being consigned to a secondary role. Our development as a toolmaking and tool using animal was, along with language and communication, one of the things that set us apart from the beasts.

Human hands, capable of making objects of great utility and beauty, are now used to dial phones or press computer keys in the name of work. Work is, for most people, no longer a source of identity: it's now a generic process - a task you just do between 9 and 5.

Rapid technological change has not obliterated the old trades completely. There are still those around who are part of an unbroken heritage of knowledge and skill, although not for much longer. Some are the remnant of an old trade for which demand has virtually vanished. Some insist on doing things in an old way just because they don't like dealing with technology or have no faith in it. Some are trades that did vanish almost completely and have now been recreated as a result of demand. Some are not trades in the strict sense of being a tradesman but more an attitude towards work and finding practical solutions; engineers are a classic example.

Along the way, many issues are emerging. Our roots in being a innovative culture, the trend towards being a more indoor, inward looking nation, the fact that young people have little grasp of the power of the lever, the pulley or the wedge. The knowledge that made us great survivors may not be being passed on.

This project is not an exercise in sentimentality - the "good old days" were often hard, sometimes brutal, badly paid work. Most of the old tradesmen I have spoken to like the fact that power tools and computers can eliminate a lot of boring work and give them time to put their feet up.

Behind all these stories are some powerful messages. I hope to eventually distil them into an interesting and stimulating book that will prove a useful record of an important time in our history.

If you know of someone who is the possessor of an interesting old trade, Mark can be contacted at:

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More Bridges

Vincent's Rivulet Bridge Tasmania

This small single-span road bridge near Hobart is the first **composite** steel beam and concrete deck bridge in Australia. The structure was designed by Public Works engineer Allen Knight (later Sir Allan) in 1932 as a full scale test of his theory that the bridge would carry a much higher load if the deck were securely bonded to the supporting beams.



Sir Allan Knight and Vincent's Rivulet Bridge

After construction by the PWD, the bridge was loaded with a 10.6 ton truck and the measured deflection was only 0.06 inches. The test confirmed the theory, and Allan Knight published two papers on the design. Composite construction was widely adopted throughout Australia and is still used today.

Initially it was thought that this Tasmanian bridge was the first in the world, but research by Don Fraser found similar and slightly earlier developments in the USA, of which Allan Knight was almost certainly unaware. His interest had been aroused by the measurements he had made on a model bridge at the University of Tasmania in 1932, working under Professor Alan Burn. Knight was unable to calculate the model deflections under wheel loading correctly until he glued the deck onto the beams. The glueing reduced the model deflections and greatly improved the correlation with theoretical values.

Vincent's Rivulet Bridge remains in service today, a tribute both to a bridge department willing to try new things and to a bridge designer who went on to serve as Chief Engineer of the PWD for 10 years and Commissioner of the Hydro-Electric Commission for 30 years. The Institution awarded the bridge an Historic Engineering Marker in 1999.

Professor W H Warren biography

The Warren Centre for Advanced Engineering at The University of Sydney has recently published the first in its series: "Australia's Great Engineers". This premier work is the biography of William Henry Warren (1852 – 1926) of The University of Sydney who, with William Charles Kernot of The University of Melbourne, comprised the brace of Australia's first university teachers in engineering when they took up their appointments in 1883.

The author is Dr Michael Gourlay of the Department of Civil Engineering, The University of Queensland, who was supported by the Centre to the extent of being able to visit many related sites in the United Kingdom. This resulted in information being obtained about Warren's early life before emigration to Australia in 1881. Much of this material was obtained from definitive sources and it reveals the story of someone who, despite many reverses, persisted in his chosen profession ultimately to reach its highest level. His winning of a prestigious Whitworth Scholarship is reasonably well known but what has been less publicised is the series of family setbacks that could have deterred a less determined personality.

After a few years with the New South Wales Department of Public Works, Warren applied successfully to become the initiator of engineering teaching at The University of Sydney. Nearly forty-three years of distinguished service led to his retirement which, sadly, only lasted ten days.

The launching ceremony for this publication was held on 22nd October 1999 in the lecture theatre of the former P.N. Russell Engineering Building of the University: a venue where Warren gave many of his lectures including his last. The date was selected as being within a few days of the 90th anniversary of the opening of the Building and of the 80th anniversary of the founding of the Institution – of which Warren was the first President.

The amount of detail, much of it quite surprising, disclosed in this book is a tribute to the extent of the work by Dr Gourlay. The publication, which includes an excellent set of references, is strongly recommended to anyone or any library with an interest in Australia's engineering history in the last quarter of the nineteenth and the first quarter of the twentieth century. There are 66 A5 pages bound in a hard cover (ISBN: 1 86487 288 8) and it retails for \$29.95 to members of the Institution. Enquiries: telephone (02) 9351 3752 email warrenc@eng.usyd.edu.au



Professor Warren

HEM for the Overland Telegraph



Pictured at the HEM ceremony, Trevor Holm (left) receiving the plaque from Hugh Orr, Chairman of the Engineering Heritage Branch and Deane Kemp, President of the South Australian Division of the IEAust.



The HEM plaque

In Engineering Heritage Australia No. 8 of November 1998, the back page article described the Overland Telegraph and the dinner held to commemorate the 125th anniversary of the first telegraphic link to the “old country” on 22 October 1872.

On the same day in 1999, the Institution of Engineers Australia marked the occasion by presenting a bronze plaque to Australia Post. The plaque is an Historic Engineering Marker and is only the second such marker to be presented in the city of Adelaide. Similar plaques commemorating the Overland Telegraph have been placed in Darwin and Alice Springs. Deane Kemp, President of the South Australian Division of the Institution (and a past chairman of the National Committee on Engineering Heritage), explained that the Historic Engineering Marker program was established to acknowledge significant engineering achievements that have made important contributions to the development of Australia and the standard of living enjoyed by the community.

Accepting the plaque on behalf of Australia Post, General Manager SA/NT Trevor Holm said that AustPost was pleased to participate in acknowledging the vital communication link between Australia and the rest of the world. Until 1975, Posts and Telegraphs were the responsibility of the Post Master General's Department (PMG). Messages were sent to telegraph offices where they were written out, at first by hand and then by teletype machines. The postal service then delivered the message to the receiver's home or business.

Hugh Orr, Chairman of the South Australian Division's Engineering Heritage Branch, outlined some of the background of Todd's career and spoke about the enormous contribution the Overland Telegraph made to the development of Australia.

Pioneers of Refrigeration in Australia

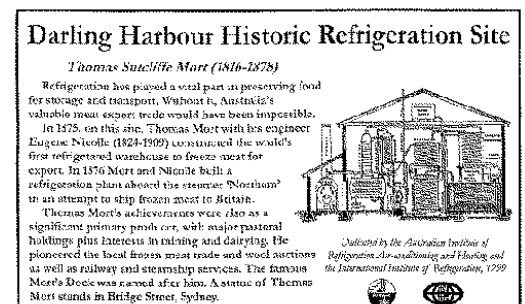
In September 1999 the Australian Institute of Refrigeration, Air-conditioning and Heating (AIRAH) and the International Institute of Refrigeration placed a commemorative plaque on the site at Darling Harbour in Sydney of the world's first cold storage and freezing complex employing mechanical refrigeration.

It was the vision, enthusiasm and financial resources of Thomas Mort and the abilities and persistence of his engineer, French born Eugene Nicolle, that led to the building of the plant. It commenced operation in 1875.

Nicolle had developed an ice-making process based on the evaporation and absorption of ammonia and applied it in his Sydney Ice Works at Darlinghurst in 1862. From 1867 he had worked with Mort to develop processes for freezing meat and shipping it to Europe. At that time, Mort had been convinced that success would be achieved within a few weeks. Years of frustration followed as Nicolle strove to improve his process and overcome the numerous problems with the refrigeration plant.

The works at Darling Harbour were connected to Mort's abattoir at Bowenfels in the Lithgow Valley by a rail link with a fleet of insulated wagons cooled by ice and calcium chloride. Both the abattoir and the Darling Harbour works were equipped with ammonia absorption refrigeration plant developed by Nicolle and built in Sydney. At Darling Harbour, chilled meat could be stored for local consumption or frozen for export. The works included facilities for the manufacture and sale of ice and for the refrigerated storage of milk. The New South Wales Fresh Food and Ice Company was formed to operate the works, with Mort as the major shareholder.

The effort of Mort and Nicolle to make a trial shipment of frozen meat to England in 1877 was a failure and the meat never left Sydney. Mort died the next year. In 1880, a shipment of frozen meat from Sydney to London, arranged by Queensland pastoralist and later Premier Thomas McIlraith and his brother Andrew in London, was an outstanding success. Soon there were freezing works established in Queensland, New South Wales and Victoria. By 1900 over four million carcasses of frozen mutton were being shipped from Australia to Britain and Australia had a major new industry.



The plaque unveiled at Darling Harbour

The "Snowy's" living treasures - oral history captures their memories

Whilst the enormous part played by migrant workers in construction of the Snowy Mountains Scheme has been well documented, the story of the Professional Engineers has not been as well told. As part of the Snowy's 50th Anniversary celebrations in 1999, the Monaro Group of The Institution of Engineers supported by the Sydney Engineering Heritage Committee, undertook a pilot oral history project to tell the stories of some of the engineers that worked on the Scheme.

Apart from the widely acclaimed excellence of the scheme and its engineering (it has been designated a National Engineering Landmark and an International Historic Civil Engineering Landmark), the 'Snowy Era' saw the integration of people from many lands, living and working in harmony, whilst producing Australia's greatest single engineering accomplishment. Australian contracting and construction came of age in building the scheme, such that today no engineering undertaking is beyond Australian capabilities. The Snowy might well be called "the birthplace of modern Australia".

The Monaro Group's project was financed jointly by the Snowy Mountains Authority (SMHEA) and Sydney Division of The Institution of Engineers. Knowing little about oral history, the sub-committee embarked on a rapid learning course and engaged professional interviewer Matthew Higgins of Canberra to do the interviews.

Criteria adopted for selection of interviewees aimed at obtaining the widest possible representative coverage of engineering disciplines and, to make the best of the limited

funds individuals had to live within reasonable proximity to Cooma and Canberra. This meant that unfortunately, a number of important engineers could not be interviewed. The main focus of each interview is on the engineer's participation between 1949 and 1974. However, the interviews have a broader coverage. They traverse the life and times of the engineers, family life during the period, the camaraderie, the pressure and pace of design and construction, interaction with migrant people, the primitive conditions, relationships with staff and contractors, the leadership of the Scheme, impact on family life and the subsequent career opportunities that arose.

The 12 taped interviews together with their logs i.e. indexes, will become part of The Engineers' Oral History Collection established at the State Library of NSW by Sydney Division. Copies will also be held by the SMHEA and each of the interviewees will retain a copy of their own interview.

The engineers interviewed were:

Ross McIntyre - Major Civil Contracts
Ken Johnson - Investigations - Development
Ivor Pinkerton - Engineer in Charge - Civil Design
Darcy Walsh - Scientific Services - Field Investigations
Alan Frost - Chief Electrical Engineer (also SMEC)
John Hunter - Civil Design - Dams & Tunnels
Keith Montague - Electrical Construction
Noel Carter - Mechanical Design
Doug Price - Major Contracts/Planning & Construction (also SMEC)
David Anderson - Scientific Services - Hydrology Field Investigations
Aubrey Hosking - Scientific Services - Earth & Rock Sciences
George McRae - Field Construction

- Keith Montague

2001 Conference planning advances

Arrangements for the 11th National Engineering Conference to be held next year are well advanced. Old Parliament House, Canberra has been booked as the venue, documentation inviting registrations of interest is ready for distribution and a comprehensive conference program has been developed.

Set down for 8 to 10 October 2001, the conference will coincide with Canberra's Floriade Festival. With the theme **Federation - Engineering a Nation**, the conference will be a major element of the Institution of Engineers' program for celebrating the Centenary of Federation. It has been endorsed by the National Council for the Centenary of Federation as an official event and will address themes such as colonial engineering leading up to Federation, the

influence of the Federation movement on engineering activities and engineering progress arising from political unity of the nation.

A comprehensive three day pre-conference tour centred on Canberra is being developed. It will include engineering heritage and tourist sites in the Southern Highlands and the region surrounding the ACT. It is expected to include attractions and places of interest such as the Snowy Mountains Hydro Electric Scheme, Burrinjuck Dam, the Cotter River dam, Mount Stromlo Observatory, space tracking facilities and the Goulburn Steam Museum.

Accompanying guests will have a wide ranging program available to them. In addition to the Floriade Festival which is expected to be in full bloom during the conference, visits may be made to places of interest such as the Australian War Memorial, National Gallery, the new National Museum. Screen Sound Australia, Australian Institute of Sport, National Aquarium, embassies and high commissions, district wineries and Parliament House.

For further information contact Vesna Strika, Canberra Division Manager, The Institution of Engineers, Australia, PO Box E66, Kingston ACT 2604. Phone 02 6273 1314, Fax 02 6273 2051, E-mail vesna_strika@eol.ieaust.org.au.

- Keith Baker



Old Parliament House Canberra, venue for the 11th National Engineering Heritage Conference

Australia's heritage dams



The 1856 dam at Parramatta, the oldest in the list of dams nominated to The Register of the National Estate and one that has been honoured as a National Engineering Landmark

In one of the largest projects ever undertaken by the NCEH, a grant from the Australian Heritage Commission has been used to identify the most significant major dams in Australia for nomination to the Register of the National Estate.

Past NCEH chairman Tony Moulds initiated and managed the project on behalf of the National Committee. The survey was conducted in 1997 and the national selection committee chose 26 dams with high heritage values. Formal nominations were then prepared describing each dam and its claims for recognition. The nominations are being entered into the AHC data base. The success of the project relied heavily on the work carried out by members of the Australian National Committee on Large Dams in every state. The selected dams are listed.

- Bruce Cole

RANK	DAM	DATE	PURPOSE	TYPE	Ht(m)	STATE
1	Miena No. 2	1922	Power generation	Multiple arch	27	Tas
2	Murray Weirs	1926	Irrigation	Concrete sluices	7	SA/Vic/NSW
3	Parramatta	1856	Water supply	Masonry arch	15	NSW
4	Eucumbene	1958	Power generation	Earthfill	116	NSW
5	Scrivener	1963	Recreation	Concrete gravity	33	ACT
6	Prospect	1888	Water supply	Earthfill	26	NSW
7	Cataract	1907	Water supply	Masonry gravity	56	NSW
8	Burrinjuck	1927	Irrigation	Concrete gravity	91	NSW
9	Gordon	1974	Power generation	Concrete arch	140	Tas
10	Scotts Peak	1973	Power generation	Rockfill	43	Tas
11	Mundaring	1902	Water supply	Concrete gravity	71	WA
12	Devils Gate	1969	Power generation	Concrete arch	84	Tas
13	Hume	1936	Irrigation	Gravity & earthfill	51	NSW/Vic
14	Ord River	1972	Irrigation	Rockfill	99	WA
15	Medlow	1907	Water supply	Concrete arch	20	NSW
16	Tinaroo Falls	1958	Irrigation	Concrete gravity	47	Qld
17	Catagunya	1962	Power generation	Prestressed gravity	49	Tas
18	Crotty	1992	Power generation	Rockfill	83	Tas
19	Murray Barrages	1940	Irrigation	Concrete sluices		SA
20	Cethana	1971	Power generation	Rockfill	110	Tas
21	Eildon	1955	Irrigation	Earthfill	79	Vic
22	Enoggera	1866	Water supply	Earthfill	28	Qld
23	Barossa	1902	Water supply	Concrete arch	36	SA
24	Laughing Jack	1957	Power generation	Rockfill	17	Tas
25	Canning	1940	Water supply	Concrete gravity	70	WA
26	Yan Yean	1857	Water supply	Earthfill	12	Vic

Achievements of the National Committee on Engineering Heritage - 1999 to 2000

It is not often that the NCEH wishes to blow its collective trumpet, but the achievements of the last 12 months, as detailed for the Institution's annual report are worth repeating.

During 1999/2000, the NCEH and the Division Heritage committees:

- in the Historic Engineering Plaquing program —
 - 7 historic engineering works were plaqued: National Engineering Landmarks: Burrinjuck Dam & No. 1 Power Station, NSW; Woomera Rocket Range SA; Narrows Bridge, Perth; and Historic Engineering Markers: Tarraleah Power Station, Tasmania; Vincents Rivulet Bridge Tasmania; The Overland Telegraph, Adelaide; and Hampden Bridge, Kangaroo Valley, NSW.
 - 13 nominations for plaquing were either prepared or were in progress.

- a program is being pursued of targeting plaquings during 2001 at works having a relationship with Federation and/or establishment of Australian nationhood
- in the Oral History programs run by each Division —
 - 32 oral history interviews were conducted.
 - transcription and copying to disc of 28 oral histories is in progress
- publications included —
 - The Heritage of the Cotter Dam Precinct;
 - Eminent Queensland Engineers Vol. 2;
 - Sydney's Engineering Heritage & Other Sites (a walking guide);
 - Hobart Waterfront Heritage (guide pamphlet);
 - Large Timber Structures of Western Australia

- Michael Clarke

Engineering Heritage Conference, Auckland February 2000

The Second Australasian Engineering Heritage Conference was held in Auckland, New Zealand, in February 2000. Papers given at the conference were:

A W Aitken: *The Story of Hydro Electric Development on the Waikato River*

Rob Aspden: *Past voices - Future lessons*

Keith Baker: *Kingston Powerhouse's Past in the ACT's Future*

John Barry, Richmond, Nelson & Nick MacArthur: *Bucketladder and Paydirt*

Ian Baxter: *Redundant Industrial Heritage: The Challenges and the Solutions!*

David Beauchamp: *The Victorian Engineers of University Square*

Warren Bird: *Restoration of New Zealand's Largest Sawmill Tramway Viaducts*

Warwick T Bishop: *William Ferguson: Founding Father of the Engineering Profession in New Zealand*

Roger Blakeley: *Constructing our Past - the Importance of New Zealand's Engineering Heritage*

Cliff Boyt: *Recycling Hamilton's Historical Bridges*

Carol A Caldwell & Greg Bowron: *Historic Places Trust Guidelines for the Fire Protection of Historic Buildings*

J M Clark: *The Benmore-Haywards HVDC Link*

Ronald Cox & Colin Rynne: *A Synergistic Approach to the Recording, Interpretation and Conservation of a Built Environment*

Andrew J Ellis: *A History and Development of Fire and Life Safety in Australia*

Bruce R Gamble & Ian W Stewart: *Auckland's Electric Tramway Heritage - Celebrating 100 Years*

R F Hill: *Clarks Flour Mill and Water Race - Maheno, North Otago*

P S Hutchinson, CF Mead BE & Robert W Irwin: *Heritage Engineering - Our Professional Obligation; Practical Developments in Achieving our Goals*

Bruce W S James: *Large Timber Structures in Western Australia*

Leonie Knapman & Adrian Hutton: *Mining of Kerosene Shale at Glen Davis - Was it a Success or a Costly Failure?*



Visit to Auckland's Museum of Transport and Technology as part of the conference

A D Landells & G Mullenger: *C R Ford's Contribution to Seismic Engineering in New Zealand*

W A (Bill) Laxon: *New Zealand's Marine Engineering Heritage*

Keynote speech by Bruce Leaver, Executive Director Australian Heritage Commission, First Assistant Secretary Australian and World Heritage Group: *Australia's Heritage System - Building on a quarter century of heritage achievement; Heritage - Linking the Past and the Future*

Neville Leybourne-Ward: *The Overland Telegraph Station Alice Springs - A Conservation Study*

Peter G Lowe: *Some Aspects of Australasian Academic Engineering - from Rankine to Southwell*

Robert G Norman: *Heritage at Risk: The Rape of our Resources*

Anthony R Parkes & Deborah L Palmer: *Fire Safety Upgrades of the Oamaru Historic Precinct, Excelsior Hotel; and Bangor Homestead*

William H Pitt: *A Case for the Preservation of Historic Machinery with Special Reference to Less Appreciated Items as Refrigerated Machinery*

Max Richards: *Benalla Water Supply*

Jeremy Salmond: *Engineering the Old*

R E Sandie B J O'Neill: *The Hoffman Brick And Tile Company, Melbourne, Australia*

Mark Taylor, Julieanna Preston & Andrew Charleson: *Seismic Resistance - Heritage Architecture and the Post-colonial*

G G Thornton: *Early Suspension Bridges in New Zealand*

J L Van Der Molen & P F B Alsop: *Early Reinforced Concrete Structures - A Heritage issue*

David Veart: *Propping up the Past, Concrete Repair Work at the North Head Historic Reserve*

Ken Wyatt: *Ralph Symonds' Plywood Factory*

Notings from Prof. Ray Whitmore...

What is heritage?



The Brisbane tower at Mount Coot-Tha

Television came to Brisbane just over 40 years ago when three transmission towers were erected on Mount Coot-Tha on the outskirts of the city. Others have joined them since then and they are now an accepted part of the western skyline. Television is an essential and highly visible element of our culture and many famous names are associated with providing television facilities. So, are the towers of cultural heritage significance? Should one or more of the towers be added to the Queensland Heritage Register, or even considered for inclusion on the Register of the National Estate? And also a studio or even possibly a complete station? Or should the whole lot be swept away as soon as alternative less visible methods of mass distribution become generally available? At what point is conservation overtaken by the reality of what is practicable? These were the knotty questions presented and considered at a meeting of the Brisbane History Group in the City on 27 February last. Needless to say no general agreement was reached but one can't help wondering what the advice of the Institution of Engineers Australia would be if it were asked. What do members think?

(One suspects that towers in Sydney and Melbourne, which are of the same type, are even slightly older - Ed.)